Remarks

Pursuant to 37 C.F.R. §1.72(b), an Abstract is submitted herewith.

Claims 18-22 stand rejected under 35 U.S.C. §112, first paragraph. Claim 18 has been amended to substitute the word "alcoholate" for the word "alkylate." Accordingly, it is respectfully submitted that the §112 rejection to claim 18 and its dependent claims has been overcome.

Claims 3-4, 6-7, and 17-21 stand rejected under §112, second paragraph for various reasons set forth on page 4 of the Office Action. With respect to claims 3-4, 6-7, 17, and 22, those claims have been amended to recite "any one of," which, it is respectfully submitted, is appropriate wording for multiply dependent claims. With reference to claim 7, the term "such as" has been replaced by language that identifies the color-giving additives as part of a Markush group.

With respect to claim 22, the word "composition" has been replaced by "aluminium compound." Accordingly, it is respectfully submitted that all §112 rejections have been overcome.

Turning to the art rejections, claims 1-15 and 15-22 stand rejected as unpatentable over GB 772144A (hereinafter "GB '144") in view of Turner 4,264,370 (hereinafter "Turner"). The rejection is respectfully traversed. At the outset, claim 1 has been amended to specifically set forth the glycol ether compounds, as well as the amount of the glycol ether compound present in the composition, relative to the combined amount of aluminum compound and glycol ether compound. No such compositions are disclosed or suggested by either GB '144 or Turner. Indeed, both of those references specifically teach that the aluminum compound must contain at least one alcoholate group–i.e., (X_2Al—OR). In this regard, and with reference to GB '144, the Examiner's attention is respectfully directed to column 2, lines 75-83, where it is taught that an

aluminum alcoholate is reacted with a ketoester, ketoalcohol, or diketone in a quantity that replaces one or two of the lower alkyl radicals in the alcoholate. This stands in stark contrast to Applicants' composition, wherein the aluminum compounds contain no alcoholate groups but rather all of the ligands are β-ketoesters. GB '144 teaches that aluminum alcoholate derivatives are obtained from the reaction of polyalkylene glycols having two hydroxy groups with aluminum alcoholates followed by replacing one or two of the alcoholate groups with a compound exhibiting keto-enol tautomerism. As per the express teachings of GB '144, compounds exhibiting keto-enol tautomerism are simple ketones such as ethyl laevulinate or, alternatively, β-keto-esters such as ethyl acetoacetate. In short, GB '144 does not disclose tri-β-ketocarboxylesters of aluminum such as Applicants' tri-ethylacetoacetate aluminum. In summary, GB '144 actually teaches away from Applicants' invention to the extent that it teaches that the compounds must contain at least one alkoxy group. Furthermore, claim 1 does not call for the use of dihydroxyglycols, as does GB '144; rather, only monoethers of glycols are claims. This is significant inasmuch as dihydroxyglycols result in a solid or gel-type linked aluminum compound.

The infirmities of GB '144 are not cured by resort to Turner. Indeed, as noted above, Turner also teaches that there must be at least one alcoholate (—OR) group bound to the aluminum atom. The compositions of Turner are basically disclosed commencing in column 2, line 58-column 3, line 28. Basically, as can be seen, the —OR′ group is a labile mono-functional reactant, best described in column 12, lines 64-67. Furthermore, the skilled artisan reading Turner would conclude that the only useful compounds are aluminum compounds having a low carboxy functionality and at least one —OR grouping. In this regard, see column 4, lines 34-37. Indeed, as taught in column 3, lines 45-57, it is preferred that there are no β-ketocarboxylester ligands present. This is substantiated by the fact that Examples 12 to 15 of Turner disclose

aluminum compounds containing only one ethylacetoacetate ligand. It is further to be noted that Turner contains no teaching either as to the solvent or the amount thereof to be used; rather, Turner contains a shotgun disclosure, set forth in column 3, lines 11-23 and column 4, lines 26-27, that gives no indication as to any preferred solvent. One of the problems with the use of aluminum compounds in the printing ink industry is the provision of a suitable solvent, which is used in order to achieve liquid products having high aluminum content. Additionally, when selecting this solvent, attention must be paid to the fact that processing temperatures of up to 200°C are encountered in certain processes. Thus, low-boiling solvents as taught in Turner are clearly unsuitable in such high-temperature environments.

Experiments have shown that aluminum compounds in accordance with the teachings of either GB '144 or Turner are far more reactive towards water as compared with Applicants' claimed aluminum compound.

With respect to claim 18, neither GB '144 nor Turner teaches the reaction of a C_1 to C_{12} aluminum alcoholate with a 3-oxo-carbonic acid ester at a temperature of above 140°C in the presence of a glycol ether compound.

It is respectfully submitted that the combination of GB '144 and Turner does not make out a *prima facie* case of obviousness. Accordingly, it is respectfully submitted that all remaining claims are in condition for allowance, which is hereby earnestly solicited and respectfully requested.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

2. **(Twice Amended)** The composition according to claim [1] 23, wherein the aluminium compound (A) is contained in the composition in at least 50% by weight, relative in each case to the sum of the components (A) and (B).

3. **(Twice Amended)** The composition according to any one of claims [1] 23 or 2, wherein the aluminium compound is aluminium tris(methyl-aceto acetate) and/or aluminium tris(ethyl-aceto acetate).

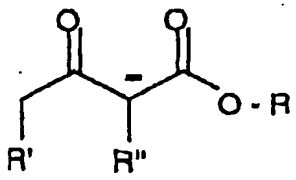
4. **(Twice Amended)** The composition according to any one of claims [1] 23 or 2, wherein [the glycol ether compound is a compound which comprises n —(X—O)— units, wherein] X may be different for each n and stands for a substituted or unsubstituted saturated C_1 to C_6 hydrocarbon[, and n stands for an integer from 1 to 10].

6. **(Twice Amended)** The composition according to any one of claims [1] 23 or 2, wherein the composition additionally contains polyester [of] or poly-acrylic acid ester compounds.

7. **(Twice Amended)** The composition according to any one of claims [1] 23 or 2, wherein the compound additionally contains colour-giving additives [such as] selected from the group consisting of carbon black, inorganic pigments, organic pigments [and/or], soluble organic dyes and mixtures thereof.

17. **(Amended)** The composition [of] according to any one of claims [1] 23 or 2, wherein aluminium compound (A) is contained in the composition in at least 75% by weight.

18. **(Amended)** A method for the manufacture of an aluminium compound with at least one ligand per aluminium atom having the following structure:



(I),

wherein R is a C_1 to C_{12} hydrocarbon residue, which may comprise 1 to 4 ether linkages and/or one hydroxy group, R′ and R″, independent of one another, stand for H and/or one C_1 to C_4 hydrocarbon residue comprising reacting a C_1 to C_{12} aluminium [alkylate] alcoholate with a 3-oxo-carbonic acid ester compound at a temperature of above 140°C in the presence of a glycol ether compound.

22. **(Amended)** [A composition] An aluminium compound produced by any one of claims 18-21.